

A few peculiarities of terminology seem unnecessary. The reasoning that substitutes "ovulary" for ovary should also lead to the introduction of new terms for egg, sperm, micropyle, epidermis, respiration, and many others. And there seems no reason at all why the familiar and inoffensive "haploid" should be replaced by such an etymological waif as "monoploid."

It is always a pleasure to read a textbook which does not stultify itself with the Spencerian teleology which has so long dominated the teaching of biology. However, the philosophy which expels teleology must be more rigorous than that which let it creep in. It is not sufficient to refer to the lack of consciousness in plants; automobiles and watches have purposes, and perhaps even in more than one sense. If the scientific approach merits discussion, the intelligent student has a right to a better treatment than that of Chapter VI. The biologist, instead of attempting to show the absurdity of teleology (which is not absurd), should devote his efforts to demonstrating its uselessness in science and the usefulness of the mechanistic view.

Errors and defects are inevitable in any large work and need not interfere seriously with its use; the experienced teacher will be able to detect them and to make allowance for them. It may safely be said that this is the best textbook of botany and the most significant contribution to the teaching of the subject that has appeared in several years, and should be of great value to teachers who have students and assistants capable of handling so detailed a presentation and who sympathize with its definition of what should be taught in an elementary course.

H. W. RICKETT

NEW YORK BOTANICAL GARDEN.

Plants and Man

Plants and Man. Clarence J. Hylander and Oran B. Stanley. X+518 pages. Blakiston Co. 1941. \$3.00.

Quite different from the usual textbook is this one prepared for a one semester course in Junior Colleges and Teacher Training Colleges. It is planned primarily as a cultural course for those who may take no further work in botany, appealing to the interest of students by stressing man's dependence on plants. Chiefly a text on economic botany, it discusses in addition the structures and

functions of plants to give a good basis for understanding useful plant products. The last section—The Enjoyment of Plants—is on the order of what is commonly called nature study and forms a fitting conclusion to the book.

Part one—The Nature of The Plant World—and the chapters in parts two and three on the manufacture of food and on the plant skeleton—comprising nearly one-third of the book, is much the same material, in a simplified form, found in the standard botany texts. Such subjects as protoplasm, cells, types of plants, leaf and stem structure, photosynthesis and classification are discussed. In the chapter on Evolution of Plant Reproduction the discussion of alternation of generation is adequate, while the diagrams showing the life histories of moss, fern, pine and apple tree are excellent. Adaptations for wind and insect pollination are given in a concise but satisfactory manner. The chapter on the origin of cultivated plants has a little on plant breeding, including hybridizing, but with no mention of genes nor of Mendel.

Part two describes most of the food plants of the world under the heads of vegetable foods, cereals, legumes, berries, orchard fruits, sugars, food accessories and beverage plants. Part three on wood, forestry and fiber plants, gives in addition to descriptions of wood and its uses, lumbering, forestry and forest conservation, brief descriptions of nearly all the trees used for lumber in the United States. In addition to the fiber producing plants there is an account of artificial fibers, such as rayon, and their manufacture. Part four considers latex producing plants and drug plants. Tobacco being considered a drug plant, as is correct, though possibly not in accord with the common idea.

Plants harmful to man takes up bacteria and the diseases they cause both to man and cultivated plants, also fungi and plant diseases. This completes the part of the book dealing with the economic uses and harms of plants.

The last chapters are on wild flowers and ornamental plants. "To know a few of the common plant neighbors, . . . to understand their distribution and origin—all make for a fuller and richer life." The characters of twenty of the larger plant families are given with descriptions of common flowers of each. As flowers from all parts of the country are described and illustrated, the book will be as interesting to students from the far west as from the

east, from the prairie states as well as from the mountains. It is to be regretted that the characteristics of the families are so brief as to give the student little idea of what the families really are. All that is said as to the characters of the Buttercup Family is that it contains "flowers with separate sepals and petals, often in an indefinite number" and of the Mallow Family that the flowers have "five partly-fused sepals and five large petals." The chapter on ornamental plants gives a surprising amount of information in less than twenty pages.

The book is illustrated with over three hundred figures—some half tones, most line drawings—usually two to six of the latter grouped in one figure. The half tones are most of them poorly reproduced, lacking in detail and pleasing qualities. The drawings, except for the maps and diagrams, are crude, in a few cases inaccurate, and fail to give an idea of the plants illustrated.

The manner of treatment of the various topics makes the book one that can be read with interest by anyone and it should appeal to the average student. Used by a teacher enthusiastic for this type of plant study it will help to create a lasting interest in the plants used or enjoyed by everyone. Enough is given of structure and function to enable students to go on into courses in morphology, physiology and taxonomy. In general the book is well adapted to do what the authors planned—"appeal to the cultural interests of the general student, acting as a survey of plant science and building at the same time a substantial foundation for further botanical study." And, in addition, it will be of value as a reference work on economic plants.

GEORGE T. HASTINGS

Nature Lore Books

The American Book of the Woods, \$2.00, and Learn the Trees from Leaf Prints, \$1.00, Davis S. Marx. The Botanic Publishing Co., Cincinnati, 1940.

The American Book of the Woods was designed primarily for use in camp activities and school projects, but its appeal is not confined to these groups. Any nature studying groups, such as Girl or Boy Scouts, would find this book full of very usable information. It is divided into three major parts, Utility Materials, Foods and Beverages, and Poisonous or Medicinal Plants.